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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,087	10/01/2001	Lan Chen	214470US2	5393

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ALEXANDRIA, VA 22314

EXAMINER

EWART, JAMES D

ART UNIT	PAPER NUMBER
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2617

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,087

Applicant(s)

CHEN ET AL.

Examiner

James D. Ewart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment dated 09 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4-6,8 and 10-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,4-6,8 and 10-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/20/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed 09 February 2006 have been fully considered but they are not persuasive. Applicant argues that there is no reasonable expectation of success when combining Gilbert and Inata, because Inata is inoperable when combined with Gilbert, the Examiner disagrees. Gilbert et al provides a method that "facilitates the efficient use of communication channels in wireless communication systems by adapting to the uplink and downlink bandwidth requirements of the channels. In accordance with the present invention, the communication link bandwidth requirements are continuously monitored using sets of predetermined bandwidth requirement parameters. The present ATDD invention flexibly and dynamically allocates time slots for either uplink or downlink transmissions in response to the changing bandwidth needs of the communication links"(see Column 4, Lines 35-45). This is achieved by using a moving average of the uplink and downlink bandwidth, however Gilbert et al states in Column 15, Lines 22-33 that "he following describes one method of monitoring and adapting to variations in communication link bandwidth requirements in a wireless communication system using the present ATDD invention. However, the present invention is not limited to the analysis technique described below. Several techniques can be used, as long as they accurately account for the bandwidth requirements of the system. No matter what technique is used, the present ATDD invention can be employed to flexibly adapt the uplink/downlink time slot allocation and bandwidth once the bandwidth requirements are determined.". Therefore, Gilbert et al could be modified with a moving average over time periods. Inata teaches allocating bandwidth according the days of the week or respective time zones in response to the changing bandwidth needs of the communication links see col 5, lines 4-16.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2,4,8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. (U.S. Patent No. 6,016,311) and further in view of Inata (U.S. Patent No. 5,910,953).

Referring to claims 2 and 8, Gilbert et al. teaches a method of allocating radio resources, in a base station, to the base station and a mobile station (Column 4, lines 3-6 and Column 5, Lines 41-48), comprising the steps of: obtaining a ratio (Column 7, Lines 9-12) between traffic of an uplink and traffic of a downlink (Column 4, Lines 57-65; Column 5, Lines 30 – 57 and Column 15, Lines 22-45); allocating the radio resources to the uplink and the downlink for the mobile station according to the obtained ratio (Column 4, Lines 54-65 and Column 5, Lines 48-52) and dividing time into a plurality of time periods (Column 15, Lines 9-12), and allocating empirical data regarding traffic of the uplink and traffic of the downlink to the respective time periods (Column 15, Lines 9-12, wherein said step of obtaining a ratio obtains the ratio (Column 7, Lines 9-12) based on empirical data corresponding to a present time period (Column 7, Line 66 to Column 8, Line 14, Column 15, Lines 9-14 and Column 16, Lines 1-3) and a current ratio between traffic of the uplink and traffic of the downlink based on current traffic (Column 5, lines 36-44 and Column 16, Lines 1-45) , but does not teach wherein the time period corresponds with

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at least one of days of a week and hours of a day. Inata teaches wherein the time period

corresponds with at least one of days of a week and hours of a day (Column 5, Lines 4-16).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Gilbert et al. with the teaching of Inata wherein the time period corresponds with at least one of days of a week and hours of a day to allocate resources to accommodate traffic changes in the cells (Column 5, Lines 4-5).

Referring to claims 4 and 10, Gilbert et al. further teaches obtaining the current ratio between traffic of the uplink and traffic of the downlink based on current traffic (Column 15, Lines 6-12 and Column 15, Lines 27-45 and Column 18, Lines 41-53) and obtaining a weighted average of the empirical data corresponding to the present time period and the current ratio by weighing the empirical data and the current ratio with respective weighting factors (Column 16, Lines 1-45), wherein said step of allocating the radio resources allocates the radio resources to the uplink and the downlink according to the weighted average (Column 4, Lines 54-65 and Column 5, Lines 48-52)

3. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. and Inata and further in view of Baden et al. (U.S. Patent No. 6,353,598).

Referring to claims 5 and 11, Gilbert et al. and Inata teach the limitations of claims 5 and 11, but do not teach transmitting, to the mobile station, information about the radio resources with respect to at least one of the uplink and the downlink. Baden et al. teaches transmitting, to

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the mobile station, information about the radio resources with respect to at least one of the uplink and the downlink (Column 2, Lines 64-66). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Gilbert et al. and Inata with the teaching of Baden et al. transmitting, to the mobile station, information about the radio resources with respect to at least one of the uplink and the downlink so that each mobile station entering a cell is provided with the traffic ratio ((Column 2, Lines 65-67).

4. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. and Inata and further in view of Yun (U.S. Patent No. 6,463,295).

Referring to claims 6 and 12, Gilbert et al. and Inata teach the limitations of claims 6 and 12, but do not teach allocating transmission power according to communication quality required for the uplink and the downlink. Yun teaches allocating transmission power according to communication quality required for the uplink and the downlink (Column 9, Lines 3-12 and Column 10, Lines 24-34). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Gilbert et al and Inata with the teaching of Yun of allocating transmission power according to communication quality required for the uplink and the downlink for power control methods that use a process for estimating the quality of received signal which is fast, insensitive to frequency offset variations; and leads to a measure that differentiates signal from interference and noise (Column 5, Lines 22-27).

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Conclusion

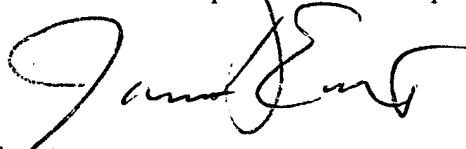
5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Ewart whose telephone number is (571) 272-7864. The examiner can normally be reached on M-F 7am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571)272-7872. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2600.


Ewart
March 7, 2006


WILLIAM TROST
SUPERVISORY PATENT EXAMINER
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